

November 27, 1959

Dr. Aaron Novick
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Dear Aaron:

Evidently Washington has had no reply at all to its inquiry about details of the Soviet decontamination. I have written to Ierusalimskii myself; it would be some time before a reply could be expected. I do not know whether it would help or hurt to multiply this correspondence; you can use your own judgment.

The information and sample of acridine orange that you wanted is being sent under separate cover.

Acridine orange may, in fact be of some use in the detection of infrequent microorganisms, even dead ones. For example, there is a paper by Gromov in Microbiology (the Russian journal translated by AIBS) Vol. 26, January 1957 at translation page 57: Gromov uses acridine orange to stain the surface of weathered granite in looking for bacteria that might be involved in primary soil formation. If you are still interested in biochemical fossils, you might find this approach more generally useful. Dave Rittenberg was here just a few days ago expressing some similar interests. He had seen some rocks in Israel that, when heated, gave off fishy odors that he recons must be several million years old.

We have wondered about looking for "Martian" life on earth. At any rate, we thought it might be worth while to make a direct attack on the proposition that all terrestrial life is nucleic. One way of going at this might be to set up very large scale enrichment cultures (for example, a pond) to look for organisms that can proliferate in the presence of a mixture of several nucleic component analogues like fluoruracil plus thloguanine. Of course, a non-nucleic organism is only one of several possibilities to emerge from such a selection but it may be worth looking for. If we get a negative answer it will be equally interesting as at least one biochemical criterion of nucleic life. The enclosed picture comes from General Electric and represents photos recovered from flights up to 800 miles.

Yours as ever,

Joshua Lederberg

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P.S. Before putting away your letter of November 10th I realized I did not adequately answer it. I think an astute writer could make quite a story out of the apparent conflict in the objectives in the space research program but I find it a little difficult to know whom to suggest. As is often the case the people who are best informed about the issues also have connections with the program that might make it awkward to make too many vehement public statements at the present time. While the situation is so fluid, I'm rather reluctant to do this myself for example. Perhaps the best thing to do might be to approach Hugh Odishaw, who is the Executive Director of the Space Science Board and ask him if he would lay out an article. Without stressing the term conflict I think it might be possible to elicit from him a pretty good statement of the Space Board's position. Certainly the basic items of policy here which are perhaps settled by the President's Scientific Advisory Board are not being sufficiently debated in the scientific community. Apropos your meeting in June, it certainly might be fun to go but I know you are going to anticipate my reaction; I would hate to pin myself down now to a definite date. So if you need an advance program I suppose that cuts me out as far as any possibility of speaking is concerned. Just when will your meeting be? I'm likely to be tied-up early in June but there might be some chance, and I would certainly like to exploit it some time if possible, of my coming up a little later on. If you think this is a sufficiently secure basis to put me down as moderator I would say O.K. but with reservations for the time being. Among the people I would think of for speakers, if you have the travel funds, are Luria, Urey, Sagan, Calvin, and, why not, Jastrow. Also I should put Sinton on that list! If enough of us do, in fact, converge at that time we might use the occasion for another Westex meeting but I would wait a while before counting on this.

We had some occasion today to want to do a quick check on DNA in some preparations; I'm completely sold now on the cytochemical-microscopic approach!